

WHAT IS CLAIMED IS:

1. A movable mold core spotting apparatus, said apparatus comprising:  
a support structure for receiving all or a portion of a mold; and  
at least one force exerting device, said at least one force exerting device affixed to a portion of said support structure and having a moving portion releasably attached to at least one movable core;  
wherein said at least one movable core is adapted to movably communicate with a portion of said mold, such that by activation of said at least one force exerting device said at least one movable core may be moved through a desired range of motion as often as necessary during the process of spotting said movable core to said mold.
2. The movable mold core spotting apparatus of claim 1, wherein said mold has multiple movable cores, each of said movable cores releasably attached to a force exerting device.
3. The movable mold core spotting apparatus of claim 1, wherein a single force exerting device is releasably attached to, and otherwise adapted to move more than one movable core.
4. The movable mold core spotting apparatus of claim 1, wherein said at least one force exerting device is a hydraulic cylinder.
5. The movable mold core spotting apparatus of claim 1, wherein said at least one force exerting device is a pneumatic cylinder.
6. The movable mold core spotting apparatus of claim 1, wherein said at least one force exerting device is an electric motor and gear assembly.

7. The movable mold core spotting apparatus of claim 1, wherein said at least one force exerting device is adjustably affixed to said support structure so that said force exerting device may accommodate molds of different size and various movable core locations.

8. The movable mold core spotting apparatus of claim 1, further comprising at least one coupling device for releasably coupling said at least one force exerting device to said at least one movable mold core.

9. The movable mold core spotting apparatus of claim 8, wherein said at least one coupling device is adjustable relative to its point of attachment to each of said at least one force exerting device and said at least one movable core.

10. The movable mold core spotting apparatus of claim 8, further comprising at least one location indicating device for assisting in the alignment of said at least one coupling device to said at least one movable core.

11. The movable mold core spotting apparatus of claim 8, further comprising at least one location indicating device for assisting in the alignment of said at least one coupling device to said at least one force exerting device.

12. The movable mold core spotting apparatus of claim 1, further comprising at least one locating element residing between a top surface of said support structure and a back surface of a backing plate of said mold, said at least one locating element provided to ensure accurate and repeatable location of said mold to said support structure.

13. The movable mold core spotting apparatus of claim 1, further comprising means for releasably affixing said mold or a portion thereof to said support structure.

14. The movable mold core spotting apparatus of claim 1, further comprising at least one spacer plate, said spacer plate releasably affixed to a top surface of said support structure and substantially against an edge of a backing plate of said mold, said spacer plate provided to account for the height of said backing plate during the movement of said movable core.

15. The movable mold core spotting apparatus of claim 1, wherein said at least one force exerting device resides substantially beneath said support structure.

16. The movable mold core spotting apparatus of claim 1, wherein said at least one force exerting device resides outward of and substantially in line with the movable core to which it is attached.

17. A method for spotting a movable mold core to a mold, said method comprising the steps of:

(a) placing a mold or a portion thereof onto a support structure, said support structure having at least one force exerting device affixed thereto;

(b) locating at least one movable mold core requiring spotting to a mating portion of said mold;

(c) releasably attaching a movable portion of said at least one force exerting device to said at least one movable mold core requiring spotting;

(d) moving one or more of said movable mold cores requiring spotting through a desired range of motion by activation of said at least one force exerting device;

(e) checking one or more areas of interest on said movable mold core being spotted and/or one or more areas of interest on a mating portion of said mold for proper fit therebetween;

(f) adjusting said one or more areas of interest on said movable mold core being spotted and/or said one or more areas of interest on said mating portion of said mold as required; and

(g) repeating steps (d)-(f) as necessary until the fit between said at least one movable mold core and said mating portion of said mold is acceptable.

18. The method of claim 17, further comprising providing at least one coupling device for releasably coupling said at least one movable mold core to said at least one force exerting device.

19. The method of claim 18, further comprising adjusting the location of said at least one coupling device for proper releasable attachment to said at least one movable mold core.

20. The method of claim 18, further comprising adjusting the location of said at least one force exerting device for proper attachment to at least one or more of said coupling devices.

21. The method of claim 17, further comprising releasably affixing said mold to said support structure.

22. The method of claim 17, further comprising one or more locating elements for ensuring accurate and repeatable location of said mold to said support structure.

23. The method of claim 17, further comprising providing at least one spacer plate, said spacer plate releasably affixed to a top surface of said support structure and substantially against an edge of a backing plate of said mold, said spacer plate provided to account for the height of said backing plate during the movement of said movable core.

24. The method of claim 17, further comprising applying a marking material to said one or more areas of interest on said movable core being spotted and/or one or more areas of interest on said mating portion of said mold, to assist in indicating the fit between said movable mold core being spotted and said mating portion of said mold.

25. The method of claim 17, further comprising the use of at least one remote actuator to activate said at least one force exerting device.

26. The method of claim 17, further comprising one or more safety devices adapted to prevent activation of said at least one force exerting device while one or more persons is present within a predetermined zone.

27. The method of claim 17, wherein said movable mold cores may be moved individually or in groups of various number.

28. A method for spotting a movable mold core to a mold, said method comprising the steps of:

(a) placing a mold or a portion thereof onto a support;

(b) locating at least one movable mold core requiring spotting to a mating portion of said mold;

(c) releasably attaching a fixed portion of at least one force exerting device to a portion of said mold located inward of said at least one movable mold core, such that said at least one force exerting device is located substantially within an open area on said mold;

(d) releasably attaching a movable portion of said at least one force exerting device to said at least one movable mold core requiring spotting;

(e) moving one or more of said movable mold cores requiring spotting through a desired range of motion by activation of said at least one force exerting device;

(f) checking one or more areas of interest on said movable mold core being spotted and/or one or more areas of interest on a mating portion of said mold for proper fit therebetween;

(g) adjusting said one or more areas of interest on said movable mold core being spotted and/or said one or more areas of interest on said mating portion of said mold as required; and

(h) repeating steps (e)-(g) as necessary until the fit between said at least one movable mold core and said mating portion of said mold is acceptable.